

# FIG. 1A

cagaaagaga cctatatgt caaatacaga ac atg atc ttc ctc ctg cta atg	53		
Met Ile Phe Leu Leu Leu Met			
1	5		
ttg agc ctg gaa ttg cag ctt cac cag ata gca gct tta ttc aca gtg	101		
Leu Ser Leu Glu Leu Gln Leu His Gln Ile Ala Ala Leu Phe Thr Val			
10	15	20	
aca gtc cct aag gaa ctg tac ata ata gag cat ggc agc aat gtg acc	149		
Thr Val Pro Lys Glu Leu Tyr Ile Ile Glu His Gly Ser Asn Val Thr			
25	30	35	
ctg gaa tgc aac ttt gac act gga agt cat gtg aac ctt gga gca ata	197		
Leu Glu Cys Asn Phe Asp Thr Gly Ser His Val Asn Leu Gly Ala Ile			
40	45	50	55
aca gcc agt ttg caa aag gtg gaa aat gat aca tcc cca cac cgt gaa	245		
Thr Ala Ser Leu Gln Lys Val Glu Asn Asp Thr Ser Pro His Arg Glu			
60	65	70	
aga gcc act ttg ctg gag gag cag ctg ccc cta ggg aag gcc tcg ttc	293		
Arg Ala Thr Leu Leu Glu Gln Leu Pro Leu Gly Lys Ala Ser Phe			
75	80	85	
cac ata cct caa gtc caa gtg agg gac gaa gga cag tac caa tgc ata	341		
His Ile Pro Gln Val Gln Val Arg Asp Glu Gly Gln Tyr Gln Cys Ile			
90	95	100	
atc atc tat ggg gtc gcc tgg gac tac aag tac ctg act ctg aaa gtc	389		
Ile Ile Tyr Gly Val Ala Trp Asp Tyr Lys Tyr Leu Thr Leu Lys Val			
105	110	115	
aaa gct tcc tac agg aaa ata aac act cac atc cta aag gtt cca gaa	437		
Lys Ala Ser Tyr Arg Lys Ile Asn Thr His Ile Leu Lys Val Pro Glu			
120	125	130	135
aca gat gag gta gag ctc acc tgc cag gct aca ggt tat cct ctg gca	485		
Thr Asp Glu Val Glu Leu Thr Cys Gln Ala Thr Gly Tyr Pro Leu Ala			
140	145	150	
gaa gta tcc tgg cca aac gtc agc gtt cct gcc aac acc agc cac tcc	533		
Glu Val Ser Trp Pro Asn Val Ser Val Pro Ala Asn Thr Ser His Ser			
155	160	165	
agg acc cct gaa ggc ctc tac cag gtc acc agt gtt ctg cgc cta aag	581		
Arg Thr Pro Glu Gly Leu Tyr Gln Val Thr Ser Val Leu Arg Leu Lys			
170	175	180	
cca ccc cct ggc aga aac ttc agc tgt gtg ttc tgg aat act cac gtg	629		
Pro Pro Pro Gly Arg Asn Phe Ser Cys Val Phe Trp Asn Thr His Val			
185	190	195	

## FIG. 1B

agg gaa ctt act ttg gcc agc att gac ctt caa agt cag atg gaa ccc 677  
Arg Glu Leu Thr Leu Ala Ser Ile Asp Leu Gln Ser Gln Met Glu Pro  
200 205 210 215

agg acc cat cca act tgg ctg ctt cac att ttc atc ccc tcc tgc atc 725  
Arg Thr His Pro Thr Trp Leu Leu His Ile Phe Ile Pro Ser Cys Ile  
220 225 230

att gct ttc att ttc ata gcc aca gtg ata gcc cta aga aaa caa ctc 773  
Ile Ala Phe Ile Phe Ile Ala Thr Val Ile Ala Leu Arg Lys Gln Leu  
235 240 245

tgt caa aag ctg tat tct tca aaa gac aca aca aaa aga cct gtc acc 821  
Cys Gln Lys Leu Tyr Ser Ser Lys Asp Thr Thr Lys Arg Pro Val Thr  
250 255 260

aca aca aag agg gaa gtg aac agt gct atc tga acctgtggtc ttgggagcca 874  
Thr Thr Lys Arg Glu Val Asn Ser Ala Ile  
265 270

gggtgacctg atatgacatc taaagaagct tctggactct gaacaagaat tcggtggcct 934  
gcagagcttgcac ttttcaaatttgcac cctttggatgc acccagcact ttaatctgaa 994  
acctgcaaca agacttagcca acacctggcc atgaaacttg ccccttcact gatctggact 1054  
cacctctgga gcctatggct ttaagcaagc actactgcac tttacagaat tacccactg 1114  
gatcctggac ccacagaatt ctttcaggat ctttcttgct gccagactga aagcaaaagg 1174  
aattatttcc cctcaagttt tctaagtgtat ttcca 1209

FIG. 2A

Cd80_Human	MSHTREQQGTSPEKCPYLNFEQLLVAGLSH_E.C.SGV..IHYTKE..VKEVATSSC..GHNYSVEEAQTRIWORKKKMVT..*
Cd86_Human	MGISN_FVMAELLSGAAPLRTQ..AYFNETADIPQOFANSONQSESETV..YENQDQENLVN..*
GA16817596	MIF..LIUW_S_EIQLHQAALFTTYVTPKELY..EHGSNVT..LENFDTGSHYNLGAI..*
B7_H1_Human	MRIFAVEIEN..TYWH..INA..FYTVPDKLYV..EYGSNMT..TECKFPVKEQDAAI..*
B7rp-1_Hum	WRLGSPG..I.FLFFSIRADTQEKEMR..AEVGSUVELSCAPCEGSRFDENDY..YIYNOTSESKTY..*
Pro352_Hum	MERRGSPGNGHVGAAAGAIWFEC..AVGTDIDATECCSFSELEPGFSLAQ..NEINCOLDTE..*
Btfl1_Human	ITGALLEQVQPEBPV..ATVGENNTLIRCHLSEPK..NAELQ..EVRAFERSQFS..P..*
Btsf2a2_Hu	MEPAAAHESREAS..LILHESLCAAL..VSAQFIVVGPIDBII..AVMGENNTLIRCHLSEPK..NAEDM..EVRAFERSQFS..P..*
Btf4_Human	EWYSLLEVOLLTPC..SAQESVIGPSSPIL..AMVGEDADLPCHLEFTM..EAETM..ELKAVSSSER..Q..*
Btn3a3_Hum	MIKASSLAFLINHEVSLFVQILTPCSAOFSVIGPSGRI..AMVGEDADLPCHLEFTM..SAETM..ELRVMVSSER..Q..*
Btn_Human	AVFPSSGIPRCLTLLQIPLRDSAPEDVIGPPEPIL..AVVGEDAELPCLRESPNA..SAEHT..ELRVMVSSER..Q..P..*
Cd80_Human	MMS..DM..NIWPEYENET..IIF..ITNNLSIVLALTREPSDECYEVVTKYEKDFFKREHIAEVTSYKSDFEPPTS..*
Cd86_Human	EVYI..CKEKFISVH_SKYMGPI..SFI..SDSWTBLINLOKKELYOCILHKKPTMIRIHMNSELIVLNESOPE..V..EI..*
GA16817596	YENDT..SPHREFAEILLE..EQIPLKTSFH..POVOYRREGQXOCITY..CVA..WDYKYKELVKKSY..RK..INTNTHIKVP..*
B7_H1_Human	FYH..CEEDLKVOHSSYEQARLLK..DQISLGNALQ..TDYKLOEAGVIRCMISY..GADY..KRIVKNA..FYNKINQRILV..*
B7rp-1_Hum	TYHIPQONSSLANVDSTRNALMS..PAI..LKEDESFRTENIPLCFOKPHL..SOSL..CQEVLVSVEVTHVANESVPV..S..AH..*
Pro352_Hum	IYHSEEE..QDQGSALIANTALEP..DLIAQENASPLQRLQRVRAVDAESETCEVSRDF..C..SAA..SLOQAAAPYSKPSM..T..EN..*
Btfl1_Human	AVFVKGGERTEEQMEYRGRTEIIVSKD..IERSGSVALVHENITACENLYIRCYF..OE..GRS..YDEA..HLVVAHGSKPLT..*
Btsf2a2_Hu	AVFVKGGERTEEQMEYRGRTEIIVSKD..INRGSVVALVHENITACENLYIRCYF..OE..GRS..YDEA..TREVVAVHGSKPLT..*
Btf4_Human	YVNVYADKEVEDRQASAPYRGRSTLR..DCTACKAALR..TENVATASCKYLYCIF..OD..GDF..YERKAIYELKVAEL..SNLVEY..*
Btn3a3_Hum	AVVYADKEVEDRQASAPYRGRSTLR..DC1TAGKAALR..TENVATASCKYLYCIF..OD..GDF..YERKAIYELKVAALGSDLHLY..*
Btn_Human	DGTAKEBVAIRRGVRVSDGEGTYGFFR..ED..IC..YEDAIYHTRKVAALGSDPHES..*
Cd80_Human	100..*..120..*..140..*..160..*..180..*..200..*..220..*..240..*..260..*..280..*..*
Cd86_Human	100..*..120..*..140..*..160..*..180..*..200..*..220..*..240..*..260..*..280..*..*
GA16817596	100..*..120..*..140..*..160..*..180..*..200..*..220..*..240..*..260..*..280..*..*
B7_H1_Human	100..*..120..*..140..*..160..*..180..*..200..*..220..*..240..*..260..*..280..*..*
B7rp-1_Hum	100..*..120..*..140..*..160..*..180..*..200..*..220..*..240..*..260..*..280..*..*
Pro352_Hum	100..*..120..*..140..*..160..*..180..*..200..*..220..*..240..*..260..*..280..*..*
Btfl1_Human	100..*..120..*..140..*..160..*..180..*..200..*..220..*..240..*..260..*..280..*..*
Btsf2a2_Hu	100..*..120..*..140..*..160..*..180..*..200..*..220..*..240..*..260..*..280..*..*
Btf4_Human	100..*..120..*..140..*..160..*..180..*..200..*..220..*..240..*..260..*..280..*..*
Btn3a3_Hum	100..*..120..*..140..*..160..*..180..*..200..*..220..*..240..*..260..*..280..*..*
Btn_Human	100..*..120..*..140..*..160..*..180..*..200..*..220..*..240..*..260..*..280..*..*
Cd80_Human	NIR..*..R1IQTSGCEPPI..HLSVLENGEELNAINTV..*..SDPDETEIAYSSKLEDF..*..NMTTINHSEMCIITY..GHLR..*
Cd86_Human	SNIT..NIVYI..NITCSSIHCYPERPKKMSVL..*..IYEKNSTIEYDGIMQKSQDNVTEIADSTISI..SFPDVLSMTF..*
GA16817596	ET..*..DELETCQAI..CYPELAE..VSPN..VSPN..VSHSR..*..TP..EGL..Q..SVR..*..TPGRENCF..*
B7_H1_Human	VDPVT..SEHLLTCA..ECYKAE..VITS..DHQVLSGKRTTNSK..*..REERLEN..*..TNEIIFYCTEFLRDPEN..*
B7rp-1_Hum	SPSE..DELTETCISINGYPEREN..VY..INKEDNSLIDQALONDIVELMRGLEYEYVSVER..*..MANEOGLDDYHSVIRVVL..*
Pro352_Hum	KDLRGDDTVTIITCSISYQYEEAE..VENDQGQGVPLTGNVILSQ..*..KIVSMP..DADGLEM..WVATVTRD..*
Btfl1_Human	RCHEDGIGRLECTISRCWYKPL..TVWRDP..YCGVAPAL..*..KIVSIA..DADGLEM..WVATVTRD..*
Btsf2a2_Hu	RAQEDCSIWEECTISCGWYPEPL..TVWRDP..YGEWYBAL..*..KIVSIA..DADGLEM..WVATVTRD..*
Btf4_Human	KGYEDGCGTHECRSTGWWYQPCQ..IOWSNA..KGENIEAV..*..EAPVIA..DVGLEYEYASVIMIG..GSGEGVSCITANSLIG..*
Btn3a3_Hum	KGYEDGCGTHECRSTGWWYQPCQ..IKWSDT..KGENIEAV..*..EAPVIA..DVGLEYEYASVIMIG..GSGGGVSCLANSLIG..*
Btn_Human	QVOENGEICLCTSVWYPEPO..VQRTS..KGEKEFEST..*..SERNP..DEEGLT..AASVJRD..*

FIG. 2B

FIG. 2C

## FIG. 3A

ataagaagct gaattaaggt gatggcagtg gggtggaaga aaggagagcc accatgcaaa 60  
aagtatccag gagggagaat taacaggact aggggatggg ccatattgc aagatgagaa 120  
atgcagaggt ctaagattct agctnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 180  
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 240  
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nngcataaac 300  
catatttcc ccagaggagg attagtagga aaggaagctg ctggtgaa agtatctta 360  
tagcagtgtc tttcctcgg tttgctcaag gggacagtgt gccagaaag tccccgtgga 420  
agggcaagga agaagggaa gttaaagcca gtggcaggtg atccaagaat ctttctgtt 480  
gctagagcta ttttacatgc tgccttca tgctctaaa ataagagtgc tggcaagtgc 540  
caggcctgtt ggtcagctt aagatgatac ctttcttgaa tataatgca tctgaataag 600  
gaaggctatc ttctggtcaa gctaaggat gccatgagca tttccctgtg gaaagcactt 660  
aattctgttc ccagttgtta cctgctgtaa gatctccctt tctaaaataa aaacaagaat 720  
acagctcact gaggaccta catttccctc tagctactga ctcatcttc ttctccttt 780  
tatagcactc ttcttgagag agttgcctat atttggcgtt acatcttac ccattctt 840  
ttgaacctat tcaagcttc atctgtacaa aactcactga tactgtgctt gtcaggatca 900  
tccatgacct ccatactgct aaatgcaact ctcaagagta tttggctcta ctgatcactc 960  
ctttgttagca ctgtgtttta aaatataagg tttatttta tttaggtatg gtgaggccaa 1020  
tatatcagga aatgactgtc gttaaaaaaa gtagttgtt ctcacagatc ccaagagaag 1080  
ggggcacac catgccacaa agggccacat ggggaagcac cagggtcagc caggaggtgg 1140  
gtgggggtg cgcaagatct ttattgttgtt tcaacagga agaaatgggt gaagcaggg 1200  
gagtggattt aggatttagct gatataaata atttcagcag gctctgggc atagggctg 1260  
tccctagtct tctggactt ggccctgggg tgattaaggc agttgcatac tggtggaaat 1320  
gtgaaagccc ccaataaaatg aggcaagttgtt ggtatgggc tctgaaatgg gttggttgc 1380  
atttggaaagg tggcgtcatg ggcaagttgtt tttactcttc ttagagggtt gatggcata 1440  
accctgggag cggcagtcctt ttcagggtca gcaaggcccc aggtgtcaaa gcatcagaat 1500  
acagaaaata aaatgcatgg ataatacaca ctgccatttgc cttttgttacc cttcctttca 1560  
atcttctctg ctggtgaccg ctcttcacaa agatctataa atgttggaaat accccatgtc 1620

## FIG. 3B

tcagtccttg ggcaactctct ttcctatctc tctgttaggtg atgtaatgca gatatccatg 1680  
actttaaatc tttaacactt ctgcattgat gactcctaaa tttacatctc taccccaact 1740  
gcctactaaa cacctccact tggctatcta ataggcattt caaaccaaattt ctacaacaaa 1800  
cgtaactctt tttcccttc cttaatttgc ttctccccca gccttctcca ttttaataaa 1860  
cagcatctcc attgccttag tgactcaagc cccaaactta ggaattttcc cagatttccc 1920  
tcttttctc aaactatata tctagcctgt cagcagttcc cttcaggtct ttttcnnnn 1980  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2040  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2100  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2160  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2220  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2280  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2340  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2400  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnna 2460  
ctaannnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2520  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnngctc 2580  
catttatatt tannnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2640  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2700  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2760  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2820  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2880  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2940  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3000  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3060  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3120  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3180  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3240

### FIG. 3C

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3300  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3360  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn ttgtgtttta 3420  
aatatatata cacacttaga cacatataac cctctttcgt atatcaatta tacttaata 3480  
aagctgttgn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnctcgcca 3540  
acagaccact tctcaccctt actagcccct ctactctaag ctatcagcat ttctgcaaac 3600  
acattcctaa cgatctcac tgcttgaat ctgccagca acctctccct ctcagcaata 3660  
gtctattgcc tacaccaaag cttagttgtc tcttaatgat gtaaatgagg ttctatcatt 3720  
ctcctgaccc aaaccctcca ctgctttca tcacactcag agcagctctg ctgtgcctg 3780  
attagatgt atggctccaa cagattccc ctgaagaaat gattccatgg ctgataaaag 3840  
ttggaaagcc tcctcagttt cagaccatta tcagattgc tgtgtgctct gtccctttcc 3900  
tcaaccataa gaagtccatg gataaagaaa gcttcagagt aaaggagaaa gcatgggagg 3960  
tacagcagga ccaagggtgg gcattcgcag cccccaccct catcagagcc agttccctac 4020  
tctccctgtc taaacctctt agtaagaggt agttcaagag aggggcaaac tcaattccag 4080  
cactcaaaag cacttgacta ctggctcag tcaactagca agtatttatt gagaatgtag 4140  
ctctgttcta tggagtctta tttcaagtg tcagactccc agacatccag tccaggtaaa 4200  
gaagatggtg tccattattc atttgacaaa caaagttggg gttcaaggc cagctattga 4260  
aaaaagctat gaaaaagcttc atgagacgtg caggttaactg ccaatatgtg tggttcacaa 4320  
ggactggttc atattcagaa acggccatta gaaaaggaag aagaacttct catttggatt 4380  
tataaagagt gtcttgaaa ctcttaattt atatcttctc ttctccagga aatcaaccta 4440  
taacttctcc tccagctcc actctaccat ggtctgtcac ctccccaaa tgatttgtta 4500  
ttccctgtt ttcaaaaatg aacaagaac caaagaccca gcaaagtttc acaaggccct 4560  
gagactttca attgtctatt tcagatcaaa tacagaac atg atc ttc ctc ctg cta 4616  
Met Ile Phe Leu Leu Leu 6  
atg ttg agc ctg gaa ttg cag ctt cac cag ata gca ggtaagaaaag 4662  
Met Leu Ser Leu Glu Leu Gln Leu His Gln Ile Ala 18  
gacaaaggga gaggcttaag aaagaagagc aggtgggtgt tcctagccaa agccaaaaat 4722  
gagaatgtgg ccctcaggct gaggccttc tttgagagga cgtatgattt ctggcattt 4782

## FIG. 3D

ccaagcacca caaaaaaaaaa aagagtcccc atgggtggctt atacatgccca atgtccctat 4842  
ctgacagaaaa cggtgactga gaatattgct ccatctattc ccactatcca gtgagggtaa 4902  
tgacaagaag acaggatcac tcagaccatg taaatctaaa ctgatacaag agggcagggg 4962  
ttgagttccc ttaaaggtga gatgccaagc agctgtcccc ttcctttctg gcagggagag 5022  
taaggagaca atggccaggg aacaccgtta ctctaaagat aatgtcttga agacattctg 5082  
catattatta gttgtttctg tgagttctt tttgaaaag caacaatagc agccgttggt 5142  
cattcataacc ttaatgtggt ttactgagtc ttcctaaaac ccaaatgaac aatgaacacct 5202  
aaggctatcc ctttggactt gaagaaagga cttctattgg aggtgaggg tgagcagaaa 5262  
gaaaagcagt ttcacagttt gttgttctcc tggggaaagg agttcagacc attcgaggg 5322  
ttagtttagaa ccatgagtgc actattttgg atgaacacca ggagctaaga gagtaacata 5382  
gaggtgtgga cagaggatta agtcctcaag acaatgcoc cagccccatg ggaaatcatc 5442  
tttctgctca tgattgagaa ataatggctc ctttggactt tgataacctt tcgaagagct 5502  
tttcctccc tactagctgg ttccagatca ctcttcaccc agtcacattc ctctcactca 5562  
ctttagtgc ccagcctggt ctggacttag agacatgcac ttggggccct cctcaaaggaa 5622  
agaccctgag atattctgct tacttctact ctgctctgc ctgcaggccc agctaaaggaa 5682  
acttttcatg ttttcttgc aaggaaccct gcctggctgg catttttagag acaagcaaaa 5742  
ggggcaataa cttccttgct acaaaacagc ttcaagtttcc catagagtga taaggaaat 5802  
ggggccaaa agacactgtt ccccatcctg tggcaggact gggggcttca ggagaaaaact 5862  
tggggaatgt gtaacctctg tgggtttgtt gcttaaaaac actgagatcc tgggtttct 5922  
gtctttgttt tttgcctttt ctcttaggaa aggagtgagc taggtgaca agggggcaaca 5982  
tttttatcc ctcattggct ctttctacag aggaaggatc ttttcttcta agataatcag 6042  
cacaagacaa tgaagatagg cactagctcc cagtttagta tactaatggg gcaaaaggaa 6102  
gagcattnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 6162  
nnnnnnnnnnnn nnnnnnnnnnn nnattttgca ggtgaggaa ctagaactca 6222  
gaaaaggtac ttaatttccc caagattaca tagttattag gtgacaccgg caagattca 6282  
acaaagctaa tgcctttct actttactgt gctaccatga tcatggtaat caaaaatggc 6342  
agacaaccca taaatcttcc aactttggaa taggttttg cactgaagtc tgaatatgga 6402

## FIG. 3E

tacgtattga atgttatttc tggatattca cagaatcaaa aaatatgtgt aatgaattat 6462  
gttgctgaat taactgaaag gaaagtaaaa atgttagcgct ttctcatttt ctgcacgaat 6522  
ttgaaattct tttctgcttt ccactatgca gataacatca gttcagacaa atattaaata 6582  
cctacctaataa tttagaatgcc ttctcctcat gggatttttt taaaatcttg tcatttcattg 6642  
tctcttaat taaagagttt tgatttcaga ggagggtacc tgcaaaaagaa aacaacaaaa 6702  
aaactaaagg atctgagaaa taattagtgt ttacttctgg ggaggggagg aggtctggg 6762  
tggggtaaa aaggatagtc ttatctatta tgtatattca ggtttttgtt tttacaaga 6822  
agcatgtatt aggnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnc aaaaaattct 6882  
catataaaaa tatgaaagta atcagactgc aacactcagt gcctgagaca gagctacagc 6942  
tatcagggtg tccagacaga cagaagatta cattttcttc cttgctcctt gtacagcccc 7002  
agacctgcat gcttcattga aaagaaaaga agatacctga attaaatcaa tgtgatgctt 7062  
agtaccctat cagtgcacat ttctttcnn nnnnnnnnnn nnnnnnnnnn cacttnnnnn 7122  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7182  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7242  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7302  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7362  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnca 7422  
cttatggcgg tattctcagt cattacaaat aaataaaaac aatccatatg ccctggagaa 7482  
tttgattcca ggagtagggtc tagaagaact tcaactggag aatggataga gaaatcatgg 7542  
tatatttgca gnnnnnnnnn nnnnnnnnnn nnngatagca tgtgaataaa ttaattacaa 7602  
aaacatcatga ctacatctat tattatatacg catgtagata aattacaaaa acatgttaact 7662  
acatctatga atcttagagc ataatattga gnnnnnnnnn nnnnnnnnnn nnnnnnggcc 7722  
agaagataac acatagcaca atgtccttt cataaataaa tatattgctt aagcataacct 7782  
tatatataga agataaagct taaaaagtaa agaagag 7819

## FIG. 4

attatcactt atgagggtgn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 60  
nnnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 120  
nnnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnctgcc 180  
ctttatttt tcatgaaaga aattgctgaa gaggactaaa agaagttta gtaagcattc 240  
aataaatgta tggatccat agttccaaa tcagcaaata tagacatcct gcattttaa 300  
ggagatttat atattttattt ggacatgctg taatttattt aaccacttcc ctgttggtag 360  
acattatttc cattttcttc tgcttagatta atgcttgaaa aaaatgtgtg ctcctaaag 420  
actgtgatga aagttgcctc tgaataaaac tcaaacaat cattaatcat taactcttc 480  
cttacttgta tgctcttgg atgctctact gtgttatcta taaaataaag tttgaagtga 540  
aaaattaggg taaaacattt tatatcattt ttaaaggata tatacatgga tgtacttaca 600  
tatgcattttt taaatttata taccataaca tttatttctt tttttaaaaaa 650

FIG. 5A

FIG. 5B

## FIG. 5C

gaattaccac tttcccaaga attaaaacat ggtacgaaag aaaggnnnn nnnnnnnnnn 3300  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3360  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3420  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3480  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3540  
ggaatagcta atgcttagaa gcagctcca aatattgtt nnnnnnnnn nnnnnnnnn 3600  
nnnnnnnnnn nnnnnnnnnn gcaagctcta ctgaacataa tttgatctaa tcttctgtga 3660  
ttattcagaa actacttcaa gatttccta tacccatc ataatgaata cccattcatt 3720  
aatgatggaa gcagccta atttgtcattt ttcacactt attgatgtaa cactacctt 3780  
actagttgg ccactcctta tgctttttt atagaactat ttagatcaat tcaactttt 3840  
aaaataaaag ccacataccctt ctgtggtaga tgaaaaacaa gtatcattt cactggtaaa 3900  
tagagaatag gaagaaaaat aaatgcagtg aaaataaagc agtgttatca aatcctaccc 3960  
agatactgtt atctaccgg aagcttcctg tttgattaaa aggaaaaata gccagtgtt 4020  
gaggtgtgga agtctagttg aaattatatg caattgaagg attaaaatag aattgaaaag 4080  
ggaataaatt cctctctgaa taatttaact cccttaggc tttgattctg cctcatctaa 4140  
aatcatctta catacttcta gtggcgtgtc ctcacattt tggtaactc tgnnnnnnnn 4200  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4260  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4320  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4380  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnccat tttcccttc cctttattgt 4440  
cagaaaaatag aaagcatcta cagtggcatt gtatgatgtg gtggtagaa atacctgatc 4500  
tgattnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4560  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4620  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4680  
nnaccatcac tggtagagg aagtgatacc tggcacaaaa atatatggat taatcaat 4740  
ggattgaggg aaacaaaccc ggagaatagg atgtgaaggt atttaagttt catgagctca 4800  
gacctttagt gtagggaaatg cgaaaggaag cattttgttc ttatatgaca gatgacctgg 4860

## FIG. 5D

aatgactgca	gggcttgggg	ggtcaggac	tgaggtgg	agaggcctct	gagagcaagc	4920										
agtgctgtcc	accagaagct	cttgctgggg	tgcccagaga	ggagcaaagg	gcagtcagot	4980										
gcacaggagg	aatgtttgg	aggagagac	cacctcagat	cagcgggtca	agaatccac	5040										
tcttgccag	atggatgggg	caaaggagaa	aaaggattcg	ccacggaaat	gtccagataa	5100										
gacaggtgcc	tttggaaaaa	tgggggtgag	atgggtctca	ggttacactt	cgtaagaact	5160										
ggaatgtaaa	gtaaaggcag	acaatgacaa	aatatcttgc	tttctttca	gct tta	5216										
					Ala Leu	20										
ttc aca	gtg aca	gtc cct	aag gaa	ctg tac	ata ata	gag cat ggc agc	5264									
Phe	Thr	Val	Thr	Val	Pro	Lys	36									
aat	gtg	acc	ctg	gaa	tgc	aac	ttt	gac	act	gga	agt	cat	gtg	aac	ctt	5312
Asn	Val	Thr	Leu	Glu	Cys	Asn	Phe	Asp	Thr	Gly	Ser	His	Val	Asn	Leu	52
gga	gca	ata	aca	gcc	agt	ttg	caa	aag	gtg	gaa	aat	gat	aca	tcc	cca	5360
Gly	Ala	Ile	Thr	Ala	Ser	Leu	Gln	Lys	Val	Glu	Asn	Asp	Thr	Ser	Pro	68
cac	cgt	gaa	aga	gcc	act	ttg	ctg	gag	gag	cag	ctg	ccc	cta	ggg	aag	5408
His	Arg	Glu	Arg	Ala	Thr	Leu	Leu	Glu	Glu	Gln	Leu	Pro	Leu	Gly	Lys	84
gcc	tcg	ttc	cac	ata	cct	caa	gtc	caa	gtg	agg	gac	gaa	gga	cag	tac	5456
Ala	Ser	Phe	His	Ile	Pro	Gln	Val	Gln	Val	Arg	Asp	Glu	Gly	Gln	Tyr	100
caa	tgc	ata	atc	atc	tat	ggg	gtc	gcc	tgg	gac	tac	aag	tac	ctg	act	5504
Gln	Cys	Ile	Ile	Ile	Tyr	Gly	Val	Ala	Trp	Asp	Tyr	Lys	Tyr	Leu	Thr	116
ctg	aaa	gtc	aaa	ggtgagtgg	gtcaaggact	agaatccatg	gaagctctct	5556								
Leu	Lys	Val	Lys					120								
ccaacagagg	atctgcaagt	cacagaaacc	cattaaaggt	agctcaagca	aaaacaagca	5616										
ggctgctttt	aaggagacag	ctatttcaga	gaaaatgaaa	gcatctgctc	ggaaataatt	5676										
tttgacatct	gagtacaaag	cagccaaagt	acaagtggaa	gggggttagga	cctatagggaa	5736										
taaaatggga	ctggaggaag	ccagggaaat	tagtccctga	aatgtggag	ggtatgaaaa	5796										
ataagctttg	cctaattcac	aattctccca	tggAACATCC	ctgacttgat	tattaagata	5856										
ctcttttca	atagttata	ccctgaatcc	agagtttta	aaaccatggt	ttgcccggcca	5916										
ttcatggatt	aaaatatcaa	tttagtgagt	agcaaccaga	tgcacgttc	ccgcccctta	5976										
aaaaataatg	tatagaagag	aatagacaga	gtagatcaga	cgatatcaca	gagtaggact	6036										
gagtaactgta	aaactaattt	ctgaggacg	tgtgtgtgt	tgtgcgtgtt	gggtcatggt	6096										
ataaaatttt	ttttcttac	tttggatcat	aaaaagttac	aagttggaa	aacactgctc	6156										

## FIG. 5E

aaatgcaagn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6216  
nnnnnnnaga gtcccatgaa gtctatact gtccctattc ctctggattc agggatctct 6276  
ccactccagc acaattgaaa atctaaatat aaagagaatc ttcacactct tgggggttct 6336  
agaaaagggtg atttgaggaa agacatataa caactataaa aaatagattt tgcttggtca 6396  
ttggcttatg gtctccaggc ttgaatgctc tgagataat gatgccaata tttctctggc 6456  
ctcttccat cccacgcatt ggacctcaga tggctgtac tgtcttctag agggtttgg 6516  
gggtttggcc ccaaaaaacc attaaccttg gcagaaagggtg tgtgacttta tgatctggta 6576  
caaagaagga caaactagag ggactggaca tgaggatgaa tattgtgttc gcccattatnn 6636  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6696  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6756  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnaaa gaccctcagt 6816  
tgttacaggg gcagtgacct cctcacaccc caaccatcaa tgagtccacca ggaaagccat 6876  
tagcctagat gtaactgttt tctatctta ttgcatttcc tacatccagg cagcagctgg 6936  
gaggaactct agaacactga agttgtctg agttccctta atgtaaggct gtacattctc 6996  
aggatgcctt gatgtactcg aatatctgca accctaaatc accacccttg ttttattga 7056  
tctctatctg aatgctgtat taatggcca ggcctctgc ccattctctc aaactgagaa 7116  
ctgtctctca ttccctggga ggcacctgc ctactcctta cctagatcag ggatttctca 7176  
gttggaga gatttggatcc ttatagtgtt ggtcatcaa ctggatatt tggggattac 7236  
aaagacttt caagggatgt atggcacag gcagtttag gaagtggatc octagatcct 7296  
catcttcccc aaatactcgt tcccaaatt gacgagcctg acaatgtgca tgccaggcaa 7356  
ggctcttggg gttccctaa aacacttcct cttaagcc taccactcac tcatacatgaa 7416  
tatagtccat tgcccaggg tgtaaaaccc tctatagtgt taaataaaag aatgattggg 7476  
aacattgaca cctgatggaa ctgttatgac taaaaaccct tttgcaaaata atgtggatc 7536  
taatttctg cttcaacaa aattgaagga ggcccttata aagttaataa ctgataatca 7596  
aaaatgagta attttgcca tgtaaatcag gtcaaagaat gaaatggcat tgctgtaacg 7656  
aaactgcttc cattccatt gatctactca tacgaacaag attccttagc ctttataagc 7716  
tacaaaaaaa tgaaaaatag aaatagaatt gaggctgaat tctattatataaaaatcattc 7776

## FIG. 5F

caaccatgtc atatggttct tcggattcat gaataattt gaaaagagag ccatatccat 7836  
cttattaagg gacacattcc caataaattt tcatcttca tgtaataaa ttatcaataat 7896  
tcataacatt ttacattttg atcaaataatg tgtaataat aatagaatn nnnnnnnnnn 7956  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 8016  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 8076  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 8136  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 8196  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 8256  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 8316  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnn nnnnnnattag atcttaatgc agaacaccct 8376  
gaacattaa agttcatag tcacaagaga aaagtttca ttcaatgc tataaatatt 8436  
ttgttgtgt aaagacatat aacgataatc aatacaaaat ctgtcaaaca aaaatatgtt 8496  
acattaagat aaaattctgt agggaggtg aaattggaag tgagttcaa tgaatgaaaa 8556  
gaaacaattt agacagagaa gnnnnnnnn nnnnnnnnn nnnnnnnnn nnncttagaa 8616  
ggaattgaat agatttagtt cttacccaa aaagcctctg ttatttgtct tatattattta 8676  
ttctctttt tccacattct ccagtcattc tccctttt taacacagga aattattcca 8736  
gcatgtttca tacatattct ttgttgtta agagcttatt taaaatatgt aatattgtt 8796  
tagatgcata tattttttt ctgtggaaa ctatattgtt ctatataat atattttaga 8856  
aatggacaca ttannnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 8916  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 8976  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 9036  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 9096  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 9156  
nnnnnnnnnn nnnnnnnnnn nnt 9179

FIG. 6A

tagatctcg ctttcttgag gcagggagcc atatctgttt aattcactca gcataatactg 60  
caaagaagca gnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnta 120  
gggagaagtg cagaataaat atacccaact cttaactatg tatagacatt atcttaggtct 180  
ttatTTTTT tctcttctta atctcaaaga aaacagagga aaggaggaag taaaaagtaa 240  
atTTTgcct gaagatgttt ggaaaaataa ccaaataaag tgagatagtg ggtaatctag 300  
tgatTTTtat tttccgtcc tctttctggc ctccaattgt gaaataattt atagcactgt 360  
aagaaagaag ccacaaattt tgtagcttg gaccactgtt gaggnnnnn nnnnnnnnnn 420  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 480  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 540  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 600  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn acttaatatt gatagtata attttattca 660  
tttcacatgg catgaagtac caagcttat aggaatcaga aaataaagtc ttatTTTCTT 720  
ttcttctcta ttgtcca gct tcc tac agg aaa ata aac act cac atc cta 770  
Ala Ser Tyr Arg Lys Ile Asn Thr His Ile Leu 131  
aag gtt cca gaa aca gat gag gta gag ctc acc tgc cag gct aca ggt 818  
Lys Val Pro Glu Thr Asp Glu Val Glu Leu Thr Cys Gln Ala Thr Gly 147  
tat cct ctg gca gaa gta tcc tgg cca aac gtc agc gtt cct gcc aac 866  
Tyr Pro Leu Ala Glu Val Ser Trp Pro Asn Val Ser Val Pro Ala Asn 163  
acc agc cac tcc agg acc cct gaa ggc ctc tac cag gtc acc agt gtt 914  
Thr Ser His Ser Arg Thr Pro Glu Gly Leu Tyr Gln Val Thr Ser Val 179  
ctg cgc cta aag cca ccc cct ggc aga aac ttc agc tgt gtg ttc tgg 962  
Leu Arg Leu Lys Pro Pro Gly Arg Asn Phe Ser Cys Val Phe Trp 195  
aat act cac gtg agg gaa ctt act ttg gcc agc att gac ctt caa agt 1010  
Asn Thr His Val Arg Glu Leu Thr Leu Ala Ser Ile Asp Leu Gln Ser 211  
aagagctgcc cccacttcct aggtcttatca gttagggttc agacaagaaa cagatggcat 1070  
actcgagtga tttgaggaga gtgtataaaa gggactgttt acaaagggtgt gatcaccatt 1130  
tggagaaact acaaaggata gtgcagaaca ctggggcttc aatgttggga gggcaattac 1190  
cactgttggaa gaagttactg gaatcagaag ggagctgttag ggaaagcccc acttcccagg 1250  
agctgttagcc acagaatagg gaagctgcc aatgcagcga ctccaaagggg tggaaaactgg 1310  
atqaatqaat accccaactc attcttcctcc caccctccaa tctcctgtcta gcacccccc 1370

## FIG. 6B

ttggctgaac ccagctagaa gtcagagaat acaagggtcc actgttgtat tccataaaag 1430  
tcaacttctc agggctcaga gcaatattga catgtacaga atagatctgg agagggaaaca 1490  
gaaaatatct agtacaatag ctaatcaactg tgattcatgc acagtgtcat gagccagcag 1550  
gatgaatatt ccttgctgt acttgctgcc agtcagctgg ttatgggttt ttccaagaaa 1610  
tttggctct aacaaaattc ttcagagcct ttactgacta tgctggatat ttttggagg 1670  
gatcccatac tttgaactt catacagcag aatttcaaac aatcttggga aaataacaac 1730  
tttatctgc ccagtaagga caactaacac ctagtatcat aatcatttcg taagagacag 1790  
gtaatttcat caccgagtgc atat 1814

## FIG. 7A

ctactgagaa gggatatact ctcagactaa aggacagtcc ctagtactga ttcaatctgg 60  
ctttatagaa aattcactat attgtcattt gatttcacag tttgccttt gtcttagctg 120  
gtaagacaga gcctatgata aggacttgtg tggcatgcag gtatttaatt ggcaacccca 180  
gagggcagaa gcaagagatt taggagttt agagaggta atataagagt atattatcaa 240  
agttgttagt tgacacaacag aaactcaaattt attcaaggac cagcatgtag acagcctcct 300  
aagatgtcta ctcagacaaa gaatttcagg tggaaaggact tggtcatctg cttcacgccc 360  
attgggtgac aggaatatga actccattct gctgctggc tagacatgca tgtggctga 420  
gtgagcttc cccagtatcc gtagcatcag aaaagtcgca gggcagaaag aaaagtatcc 480  
aatttgaggt gaattactga ctttgaagtg agtgttaagcc taactagaat tctaccccaag 540  
ctggctgaag tggaaaggta ggctgagagg aaataaggca ggactgcaca gtcccccaatt 600  
gtactgttca aatccactca tgcccttcat taagtcagct ctgccactga gccttccagc 660  
tggaggcag ccacaatctc tgcagaagat ttaatataca ccagttgtg gaacaagctg 720  
tnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 780  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 840  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 900  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 960  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1020  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1080  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1140  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1200  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1260  
nnnnnnnnnn nnnnnnnacc tgcagcactg ggatagccct ggtacagacg tagaacatgc 1320  
ttgaggaggt tgcaggagg aaatgagttt gacttgcac agaactacca ccatcaagta 1380  
cagttgggtt gaggcagaca tggatgactg tgaggcatca gagatatctg atgctttatg 1440  
ccaaataaaa attaattttt tcatggagt acactgatcc acagaccaga ctccaagaac 1500  
tttgcagtga ctaaataccc atctcatcat aactttcctg gtatttctt ctggaaaaaa 1560  
ttcttcctg atacagttt cagaggcagc tagatgcact gtcacatctc ccctttccc 1620

## FIG. 7B

acttccctac ctatccacaa tttactaccc aatgccaaca ctaaagttag cccaaacttcc 1680  
ttcttaactaa attattagtt tagaaggaaa gagaggagtc atgctaagga tcttaactgn 1740  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1800  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1860  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1920  
nnnngggag aggaggggag aggaggtagg gaggggaaag aaagaaacta gaaatccatc 1980  
aatttttagga ccaacttcag gtaaaaaaat gaattaggca agttggtctt tcaacattct 2040  
ctacctctct ttatatcatg gttgagacca cagacttctc acctcatgaa agatgaactc 2100  
taactaattc atactaaagc taaagcctct aaagaggatt aaatatgagc aatcccacga 2160  
gaacttttt cccctggaat tgtttattca actgtcggtc gttatatgga atttcctgcc 2220  
tggtaagtg taggcccagta ctggatga attgttagtt tctagaaaga cgcttcttat 2280  
ataagaacct ctccagggaa acagggcct gtatgagatg aattgagaaa taactttaca 2340  
ccactgatta tgtcagtgtt ctattctgca tggtagagat gtgaaaggc agactgacca 2400  
ttgctctgga agccttacg ctgtgagaag ttaacagtgg agtaaaatgg ccactccact 2460  
ctcttcattgg aagccaacat ggcttactaa atagtcaaca accatggag agacctgtgg 2520  
ggtcttcattc agagctcagg atctcctagg gtatcactca taaatacagc catcagggag 2580  
atggagaaat ctggatgcag ccagaaattc tcaacctggt tttacccatc cttcccaact 2640  
ttgttattcgt cctactgttt actgacatgg atcctctgct tcattaacca tcccttcctc 2700  
accacatgct ctctgaacct ggctgcacct tttctacctc catgccttct ttgctcaggt 2760  
ttttccacat aaatatcatt atttcctct ctactagctc caagccccacc ctctctctgg 2820  
ggcagctcag tcactccagg gcacaagggg gtcttccct catcccacat tttgagacct 2880  
actacctgga ccatttggtt gccttgcac tatgcttgc ttttaatttgc ctatttattt 2940  
ttccatgtat tttcattgtt cacacaagtc ttctttattc cacactaagg caaaagcaga 3000  
gtcctgtgtt cataataagt gctcaacaaa tggatggatgg attggatgg agattccatc 3060  
tttagataatc gcagtcacat catgocagct accagactgt gtggacagcc aggtcagagc 3120  
agccaaatga tattcttagct tggatggacaa ataccagcaa caaaataacc aaagtccacac 3180  
atctgcctct gatgttgcctgg cttcttatttc tcaaggcat ttttaagttg tctttagact 3240

## FIG. 7C

gttcccttc tactcattct cataaattga gctgtggact gctgtgaccc acaagcttct 3300  
ccggaagtca atgtataaaaa caaacacgga aacgaagagt atgggggtg gagggtactc 3360  
caactgactct agaatggatg actgaacatt ccaaatttca agcacaagtt agggagcaac 3420  
agatcatttt ccttttgaaa tagggtttct tctgctcagc cagttgttgt attttcatta 3480  
ggaaatggaa tgggactaca gcacaaaaaa taaatataaa aggacccttg tagggctggc 3540  
agaaaagaga atccttccta ggagacctgg aggtgattcc aggcnnnnnn nnnnnnnnnnn 3600  
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 3660  
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 3720  
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 3780  
nnntcagaaa gtgtgcaaac agtaaaaaaa aatggtatat ctagcaagtt gcatgcctt 3840  
cttgtgagtt catgaagttg tggcaaggat aagacaataa tttttgcca ttgcattcatt 3900  
atatcattgc taagagtatg ccattatnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 3960  
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 4020  
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 4080  
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 4140  
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 4200  
nnnnnnnnnn nnnnnnnnnnn nnnnttaatt aattaaatta aagaaacgac aaaagagtat 4260  
gcaagaattt taaaacaact tagaggaata tgtatgagga tacaggctaa gctaccataa 4320  
tgaagagacc tcgaaataca gtgagaagcg agacagaagt atcttcgtt ccatgtaaca 4380  
ctcaggtggc tcagagcagc taagcagcta tggccatag agtcattcag tgatccagat 4440  
tatttcattc tggctctg ccattctcca ggtatgtgtc cctataaaat tgtcaaagct 4500  
cagtcagtgc caaaccatg ttcaacctt cagaaagtaa acgagtggtg gaaaacacat 4560  
tcaatgtttt aaggccaaga cttgaaaac tcactctctt agcctgaact tagattacat 4620  
ggctggccc acttaactat aggggaggct tggaaacata gtctctgaga agccatgtgt 4680  
ccagctaatt ccctaatact aaagttgaaa gaaagaatgg attaaccagc agtataaccac 4740  
aaggttaacaa atgacttagga ggatcaggct aggtggacta gaaaagagac agtcaattca 4800  
gtgcaacaat tccatattga cactttcat gtagctgttg cttggctcta tctagagagg 4860

## FIG. 7D

actcagaggt agtttagata aggccttgc cctccaaata cagtctaagc agactgattt 4920  
cctactggat gttcaacttt ggagtcttca gggatgagta gggctctgt acgtggaaga 4980  
gactatgagg gaacctgcac aggacaaggg tttgcataaa gacactgagg tagggaccc 5040  
tcctgttgc gggacagtga gaggcccagg tctccttgac tcacaaagtg cttaactaagc 5100  
acttactaga aattaagaag cagattataa tcaatatggg ttatccaatg tttggatgag 5160  
caaggctcct tatctttct tcgttaatgt taatcacact cttttggatg gagacaaata 5220  
tctgtgggg ctnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 5280  
nnnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 5340  
nnnnnnnnnnnn nnggctcaga ctaaataatg tctaattctt tctccagtaa aacaatccgt 5400  
ggttctcaga tagcaactgtg ctggaggtag tggggtttga gggctggaa gttgggagga 5460  
ctgagccctt cccgctgagc agtttcgtcc agttttccct gtaccagcc gtcatgttta 5520  
ttccatgtga atgactccag aggcaaaatt caagcttttga aatagggcac aaattaactt 5580  
gagtaccctt tcatttcctt gtaggtgaac actcctctag ccctgcctt tgcgtctg 5640  
gagcccttgc tctaattctgt acacaccaga ggactttaca aggctttccc cagcctccag 5700  
aattattctt ctgatccacc ctctactaaa ctcaccctt cctcagtgct aggacgttga 5760  
aaaaccgaaa caaggcaaag ggccaattgt aataattcac actaaggcat gagtgactag 5820  
gttttagtata ttaacactac ctaggatatt ctatttcctt caaaaggatc ctgttaatcc 5880  
ttgaaattta acaactaatg gtatagattc taagcactgt gagtacttgt cagtggggga 5940  
aagacatttt tgggctgaga gactttgcca ctgnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 6000  
nnnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn aagaaagatg attagatnnnn nnnnnnnnnnn 6060  
nnnnnnnnnnnn nnnaaaaaat aacatgagag nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 6120  
nnnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 6180  
nnnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 6240  
nnnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 6300  
nnnnnnncaca gagctagccg tgggtgttgc caccactca tgtggccagc ctgtgggtct 6360  
acctcttagt tgccatgtaa caggattctg gtgtttcc tttggccagg t cag atg 6417  
Gln Met 213

FIG. 7E

gaa ccc agg acc cat cca act tgg ctg ctt cac att ttc atc ccc tcc 6465  
Glu Pro Arg Thr His Pro Thr Trp Leu Leu His Ile Phe Ile Pro Ser 229  
  
tgc atc att gct ttc att ttc ata gcc aca gtg ata gcc cta aga aaa 6513  
Cys Ile Ile Ala Phe Ile Phe Ala Thr Val Ile Ala Leu Arg Lys 245  
  
caa ctc tgt caa aag ctg tat tct tca aaa ggtaagttag ttttattcat 6563  
Gln Leu Cys Gln Lys Leu Tyr Ser Ser Lys 255  
  
ggtaacccaa tgcactgggt gtctgcagca tgagccactg cttgcactg caggcctatg 6623  
gcttgctgct ttcatgctaa acccactcag agcttatgaa ccacttttag cttgtcttga 6683  
tgattatttt tccccagaag aaaatggctc tcatcgtag tgagctgaac ttcttacact 6743  
gagttttta aaggaaatgt tttgttctta tgtctgaaag agtttgtctt attcttttag 6803  
ccaagagctt tcatcagcct catgagagtg atgttatttt ggcaatgcag agagctacgt 6863  
gctccgattt tgctggtggg aggttgccag gatcctttct gaggattcct tccattttca 6923  
ccccctttt ccccagtctg gatatgacct gggtaaacc cacccctct cccaggaatc 6983  
tcaacccac ggttggtaa ggaaaggaga aaggttgtg aggccatttg gggataagga 7043  
aacagctgg tgggggtca ttaacgtctt tcagcagctc cttcgagtt ttccttagc 7103  
ctgttgtatt cttaaccaaca cactcctgtt ctgttgtacc agctggaca gagcatgctg 7163  
aagccttca gccctgattt cattgcttca ttgttcatgt gtctgtctt gtttctgg 7223  
gtggagcctg cccacaaaaac cccagaatg tatgcaggcc tagctggtgc tttcctaaac 7283  
ggctcccttg tctgcactca atgaacttct ccaaagatct atacatggcc tcatactatag 7343  
aaagagaaat gacatgtgga aataattcag taggagttt cagcagcact atctgaggac 7403  
tagggaaatt ttaagtggtt gttatcttac atttatactc ataacttcta tattttcatc 7463  
tgccataaaa tattgtcatg ttctatttgt ccattgcct atgtgtgtat gtattcactt 7523  
gggtgctgac cacaatattt ctaactgttag aatgcaagga attgttgc aaaaaaaaaa 7583  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7643  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnncttca tggtaaagga 7703  
ggaggtatgt ccaacagaac ttgcactttt aaatagaacc acttcagaga gttgtgtcag 7763  
gtgcacctca gttgtcttat cttctgccccat tcttctttta cctctcacac ccataccctca 7823  
gggttcaagg cctggggcct gaggactcct taataacttc agaaatgagc agctgagtgt 7883

## FIG. 7F

tccgttccag ctgtcttgg gagaatggaa tggagtcaca ctcaaagata gagtgaaat 7943  
aaatcctctc ctcatccttc accccaatct taagagttag tgaggatatc agtagctccg 8003  
agctgggagg taaagctaa gttctaactg tgatttagag acctttctta caaataagaa 8063  
ttaagtgaat aaatgtgcaa acaatttctt ttatattttt aatgaaccag agagaaatca 8123  
tggttgccta tataaccctt gtctccaact cacttgcatt cagatctgct ttcttacatg 8183  
tgtctgccat gcacacaaac ttgtgtgcca tggaaaaggg ttgagaactg ctggtgatgc 8243  
agacagagct ttaaannnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8303  
nnnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8363  
nnnnnngcagc aagagaagga acatttaca gcttattggc cgaacttcac tgccgctagt 8423  
gtggttcaac ttggactaca gagaaatctt cctaactggc ttccctgtat tcactcctgc 8483  
tacctccaac ttggctgttt ctcactttt gctataatag gctttaaaa atcataaaatc 8543  
taccatgtgt cctctgtcca gaccttctcc atggcttctt attgctcaact ggatgaagtt 8603  
ccaacgagcc caggatggtt tgactcatgt ctccagctt aactgcatca ccatcacctt 8663  
cattgtctaa agctctaacc acacaggatt ttcttagtcct cagaggcatg gcagtcttc 8723  
aattccgagt tttctcatac aatattgtct cttcttaaaa tatttttct tgggtccac 8783  
ctgagttgga gtcatctttt aaatctcagc taagcttata cttcatcaag tcttcctaa 8843  
ttctacccctt acgcaccaca cccattacat taaatcccct tattatatgt ttccatagca 8903  
cctactttct tcttttctgt atactcagca cacaatcaca tgtcttaggt ctgttttaat 8963  
agcttggact accaattaaa ttgcattccct ttaattgtc cattgattcc tcaagtaccc 9023  
acatgcccattt cttagcaaga agttcagttt ctccctctta tagcatgtac ttctccaccc 9083  
cccacaaactt gccagaaagc ttacttagcc cacaggccca gtgctaggca gctaggtag 9143  
tcctccagag ggccctgggt ttgagcagtt gctgtctact ccggccatgc agaatctcg 9203  
gtccttccag atgtctccat ccactgtgca aaggttaacct tgctggttcc gatccccaca 9263  
cagaccacag tgctacaaga ttacagttct tatggttccc caacacatgc tctgtcattt 9323  
gtccccaaagc aggaccctta tgggttgatg aggttaggagg aggtccctgc cttagccaca 9383  
gctgcacaca gccagccctt tcccttcttag gcccctcatgt tgagccctggg acgccagttcc 9443  
taacttcctt ctcttcaggc cctcttaggg ccattggat cctgaatttc ttgtccattt 9503

## FIG. 7G

gcaaagttaa gtaaagaagc agcaggcttg gtcccttcc ttccagatgg cttcttagct 9563  
cctgaacaga tttacccacc tatacctcag tgactagctc tgtgtactaa agtgtattgg 9623  
gagggcagcc attattggtc cataaaaggt cctgcttacc atttccct aagaggaacc 9683  
attcaacagt ttggggctcg agggtgcacct gctgggctct agagaagaag ctggcaactt 9743  
ctgttgcaaa ataatgttaa attctgcttc atctgcttgc cttnnnnnnn nnnnnnnnnnn 9803  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9863  
nnnnnnnnnn nnnnnnnnnn nntaaacatt gaacctacta tatgcaggtg agtatgctag 9923  
atnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9983  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 10043  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 10103  
nnnnnnnnntgn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 10163  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 10223  
nnnnnnnnnn nnnnnnnnnga ttgaataca ggtctgtttg actccaaac ttgtggccta 10283  
tttgtgcaa aagtgcattaa tacaaattgg ttcatgtcaat attattatct ttgaacaatg 10343  
gaaggagaaa gtaagttca atccaaata attgagtgc ttatacattg acttgctgag 10403  
ccaatggcaa agtcaagtta gaatccagca gaagtccacca gctacagaat ctagatctt 10463  
agaacatgtc ttcatgtctt cagaacagtg ttcttaaac tctctgtga aggaacagt 10523  
atcatcatag gctggtaaca gttcacctac cagcaccagc ccatgaacca gactctaagt 10583  
ggcacagccc tagaagattg agccagaatt ttacagaggt ttaaagacca aatatgctgg 10643  
tttatggta cctgtggccc acagagaatg gcagcactaa cctcaggcat aatgaggt 10703  
cccactgaag ccaacattca agagcaattc ctatgggtt accattggc tcctttcaaa 10763  
tgcaaaccct catgaaagag actacagtgc tgaatagaga cctccaaatt ccaggccaag 10823  
ctcaggatag tcatgaggaa attactaaaa acctggata tagggcaaaa gcagaattag 10883  
gaatggactg atttcaggaa cccaggcaat ggcaggagtt gggcattaaa tcctaaaaga 10943  
gaatcagagt gggagggaaat atgtgaaatc agaggttaag aaaaaagtga aaacctnnnn 11003  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11063  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11123

## FIG. 7H

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11183  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11243  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11303  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11363  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11423  
nnnnnnnnnn nnnnnnaaaaa attaaaagaa agatgtgaaa tcaaggaaac ttactggta 11483  
gcagcatccc attatgtgaa cttgtgcttc tgaaccagta acttgagtta ctttgagcca 11543  
gtatcagtca cttatacctt agtcaaaat taattgatca gacattctga cctggaccag 11603  
ggaaggcagg cagaagtagc agtcaagact aaagcagaaa agggagagct aattctgcag 11663  
ccagacattt cctggattga atacccaaat tagtccctca gccttaagt gcctgaggc 11723  
caggagtaga cagaggaatg gaaagtgtga gacttcttg ttcacactct ttgccttaggg 11783  
gccagattt gctttatgca ttaccatccg aagtcccagg ccacagtcaa catttggc 11843  
tcgctatgtg gatttattta gatttacttt ttgtcctgcc atatttaat ctataagcca 11903  
aacagtttc tcattaaatct tattccattt ctggaatttt tcctttca gac aca aca 11961  
Asp Thr Thr 258  
aaa aga cct gtc acc aca aca aag agg gaa gtg aac agt gct 12003  
Lys Arg Pro Val Thr Thr Lys Arg Glu Val Asn Ser Ala 272  
gtgagtaagc atgattttta cttttcttc ttactttctt ttctctctca gcttgaattt 12063  
taaagtaacc actgttctat taattcatgg aaggcaactg aatagttcca gcttatagaa 12123  
tcttcctgtt tggtagcatt tcagcgaagc ctcgttctta gccccagaac aatcatgcc 12183  
tctttgctc ggtctatatt cctaagcact cctagatgat actgcactgg acctctggc 12243  
tcacatagtt agaaacagag taaaatcga acagcaaaga gaagatattc aactgcgatg 12303  
caattgacaa tggatgttt tgcaacaaac aatgattaag aagtacattt ttgtggc 12363  
tgagtcaaga gtaatatggg aaaaacacaa gtctttcat gaggttgaca ggtttggagc 12423  
tggaaatctgt ggaggaggaa ggatatgatc taggggtcag aagaagtggg ttactaaaat 12483  
catthaagcct ggttggatga aaagcttaga ctcagggaa gcagnnnnn nnnnnnnnnn 12543  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12603  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12663

## FIG. 7I

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12723  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12783  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12843  
ngcaccaag agatgagggg ggcagtcttgc cccatataatt tggctgaagt aagtcaattt 12903  
gtcattcctg catgagcctt tataaacaga agtaagtaac caactactat ttggtcattt 12963  
gagttgtcca agaggccagg gttctgtcta atacctgttc atgcatgaac atgccaacct 13023  
agattgcattt cagactacca gttttgggtt tttgttttagt tcagcaggat ttttctcagc 13083  
tcactgcctc tcaaactttc agcaacaaaa ggacatctgt gatatcagaa tctaccactc 13143  
taagtatttgc gatgcaatag caatgaatat ctgagtaat ctagtgggg agtggggca 13203  
ccctgttagcc aaaatgattt aacaaaatca aaccaaaattt ttggaaatga tgccttggta 13263  
caatgaagag actacttgag gtaggttga cttatctat atcttatttt ctttaccaat 13323  
acctaatttgc gaaattttat atttcttagat agctttggaa agtccctta aagaggcacc 13383  
agcataaccac tgccagatct aatccccca aacactgttt tcattatcat catgtcatct 13443  
cttgcgtctcta tagatcatat caaatccttc ccagagttt tcaggccttt tgacaactag 13503  
ccacatttca ctaagccaac tcatttacca ctcttcaaca aaactttcc tcaagttgag 13563  
ctgctccacc aacaccactg ccatgagctc attccactt ctgtggcttt gctcatgttgc 13623  
gttattttt tggagtgtcc tccctattcc ttcttacttg tcccaatccc aactttggc 13683  
atggtctact ttaagataca gtaatgagta actttannnn nnnnnnnnnn nnnnnnnnnn 13743  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13803  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13863  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13923  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn ttttaaaat ttaattcaan 13983  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 14043  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 14103  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 14163  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 14223  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nntacataca 14283

FIG. 7J

FIG. 7K

## FIG. 7L

tcagggaggg aggagagtgc tattagcaag aggagtcact aacagctca ctcacctgtg 17583  
cccatgaatt tttaatggtg tgaaaagtct gtgtatTTT tatggttctc tatggctcat 17643  
ataagagggaa caaacaatac atgaaagttc agagatgggg acaaataatca cttaagctg 17703  
gggataatca gggagaaga aagtttcat ggagaaggta actttgaat caggaagaaa 17763  
tggaaacagc aaactttct agatagagga gacactaaca ggaaaggcag agaggcagga 17823  
agggtggaa aagtgcacgt gaccccggtc agagagaaag ccaggtgtga gataaggggg 17883  
aaagactgtt agggcatgta ttgtaaacca ctaattccag gcaaaagtta gatTTTactt 17943  
actaagcaag agtgcttcag tttagatccta gcaggaaatg gagggtatgc tttagaagagg 18003  
taactgaggc aagtttaatt tataaaggta tttgcagcat taaggaaac cagcaaggaa 18063  
tactgagcat gccaggatgc aagagcaggc agggaggta actattccta ggtctgaagg 18123  
agaaaggggaa gggagcagtt cccagaaccc tagaaaaat ggcaatgaga aaggtccatc 18183  
tggcaggacc tatggtctt aacagaggaa caaagtcaac ccacaacttg tctggaggt 18243  
tgctgaggaa tagatacccc aacctctctc tcaacccact gcaacactct tttccctta 18303  
gactgagccc agtcaaagac agagggagga gcccagtgtatgc atgtcatcat 18363  
cctggagcat gaatagagtg cagcagggtg aataatgagt ctgcaggaat taatagaaat 18423  
atctgacaca ataggaaact ataagaggaa ttgaatagga gaggcccctg aaatgtgctc 18483  
caatattact gaactatgtg tggccaaag aatggaagag gaacagctct tgcaataggt 18543  
ctgaggagag aagctgaaga cttggactag ggcaatggta aaaactgtgg aaagaagttt 18603  
taaatgaaaaa gttttaaacc atgcggcttc cagctagatg aactttttta aaaaaattag 18663  
ttcctcactc aaattttggg gaggttatat atttctaat cataaaaaat gatTTTctt 18723  
atttgtggc tttctcccc ag atc tga acctgtggc ttgggagcca gggtgacctg 18781  
Ile 273  
atatgacatc taaagaagct tctggactct gaacaagaat tcgggtggcct gcagagcttg 18841  
ccatTTgcac ttttcaaattt ctttggatg acccagcact ttaatctgaa acctgcaaca 18901  
agactagcca acacctggcc atgaaacttg ccccttcaact gatctggact cacctctgga 18961  
gcctatggct ttaagcaagc actactgcac tttacagaat taccctactg gatcctggac 19021  
ccacagaatt ctttcaggat cttcttgct gccagactga aagcaaaagg aattatTTcc 19081

FIG. 7M

cctcaagttt tctaagtat ttccaaaagc agaggtgtgt ggaaatttcc agtaacagaa 19141  
acagatgggt tgccaataga gttatttttt atctatact tcctctgggt actagaagag 19201  
gctattgaga ctatga 19217



FIG. 8

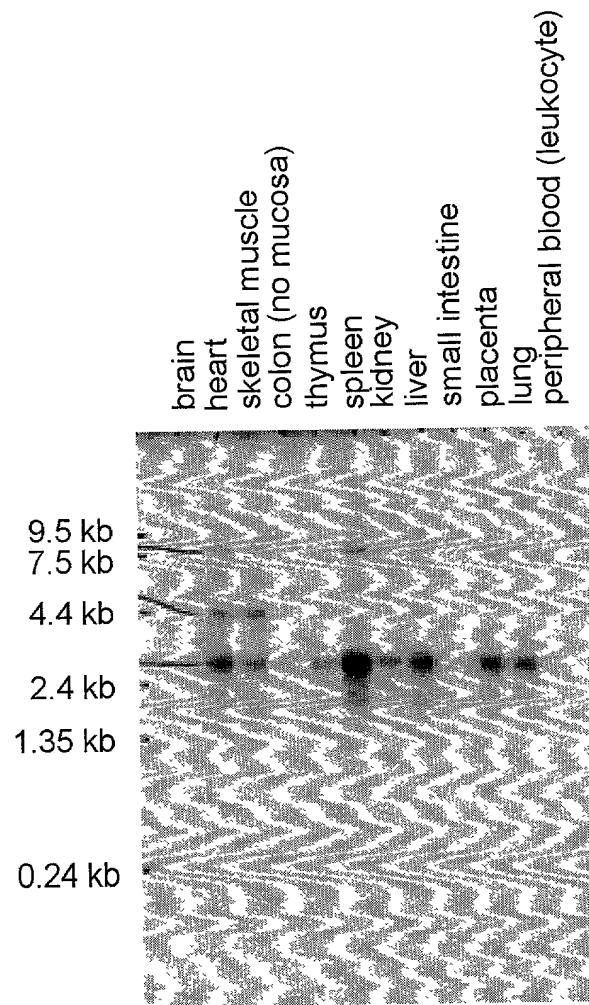


FIG. 9

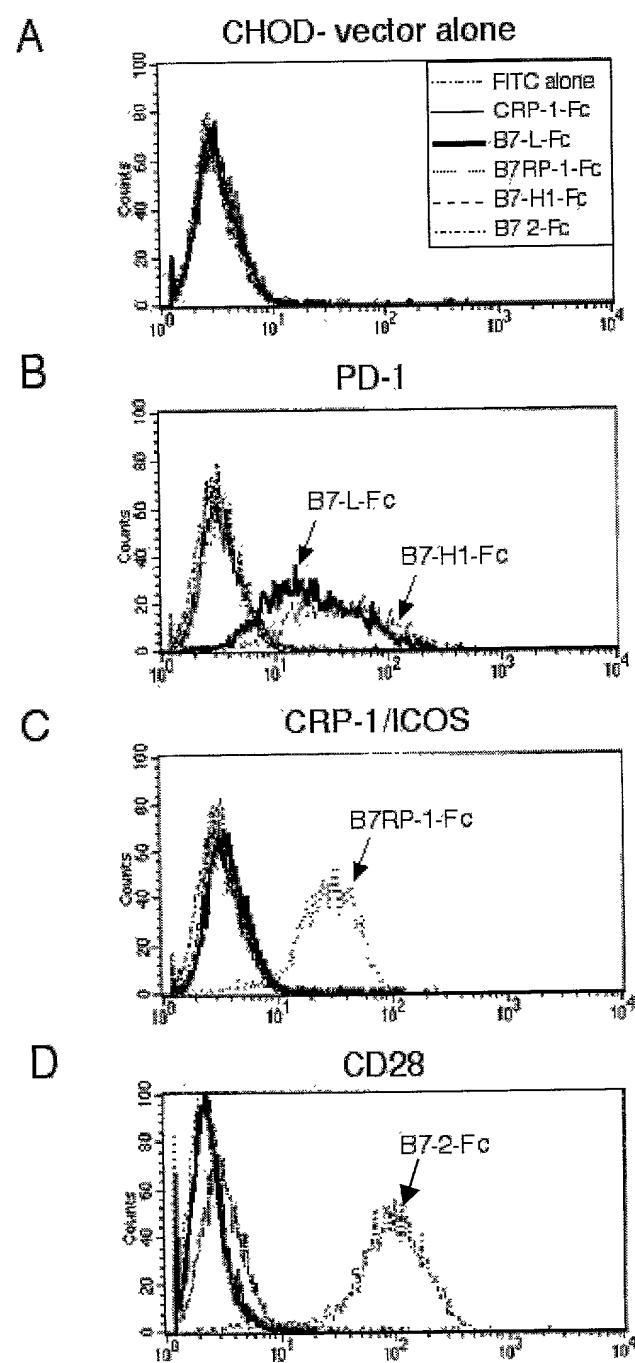


FIG. 10

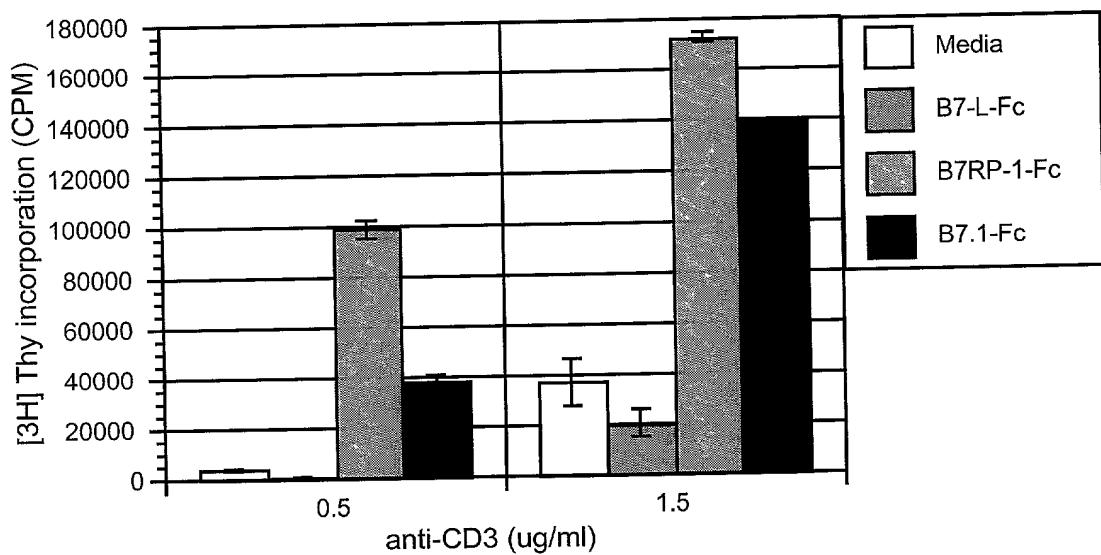


FIG. 11

